PRIMARY LESIONS

1. Macule - flat, < 1cm
2. Patch - flat, hypo or hyperpigmented, > 1cm
3. Papule - palpable solid mass 0.5cm or smaller
4. Nodule - deeper and firmer than papule, 0.5-2.0cm
5. Tumor - > 2cm
6. Plaque - raised flat lesion, >0.5cm
7. Vesicle - serous filled, less than or equal to 0.5cm
8. Bulla - > 0.5cm
9. Pustule - vesicle filled with pus

    a. furuncle - boil
    b. carbuncle - cluster formation of furuncles with usually greater than one sinus tract.

10. Cyst - closed cavity lined by epithelium, containing liquid or semi-solid material.
11. Wheal - slightly irregular, relatively transient superficial area of skin edema.

SECONDARY LESIONS

1. Scale - thin flakes of exfoliated epidermis.
2. Crusts - dried residue of serum, pus or blood.
3. Fissure - linear cracks in the skin.
4. Erosion - loss of superficial epidermis, surface is moist but does not bleed.
5. Ulcer - deeper loss than erosion, frequently bleeds and then scars.
6. Excoriation - scratch marks.
7. Lichenification - thickening and roughening of the skin with increased visibility of skin furrows.
8. Atrophy - a thinning of the skin with loss of normal skin furrowing.
9. Scar - production of excess collagen and fibrous tissue fibers after an injury.
10. Keloid - hypertrophied scar.

DESCRIPTIONS

1. Size - length x width in cm.
2. Form - regular vs irregular borders.
3. Borders - sharp vs diffuse.
4. Arrangement - disseminated vs grouped vs confluent.
5. Extension - localized or regional vs generalized or universal.

ACNE

A. GENERAL CONSIDERATIONS

Almost all adolescents experience acne vulgaris (the most common form of acne) to some degree. It is an inflammation of the pilosebaceous units. The face and trunk are involved. Scarring may or may not result.

It's peak incidence is about 14 years of age in girls and 16 years of age in boys. The duration of acne vulgaris is variable, with most cases ending well before the patient reaches 20 years old. In some patients, it may persist or reoccur into the patients thirties.

Acne vulgaris is the result of androgens and bacteria on the pilosebaceous units. It can range from mild to severe. Squeezing the acne lesion certainly helps perpetuate the disease.

B. ESSENTIALS OF DIAGNOSIS

1. The lesions are primarily on the face, neck, shoulders, back and chest.
2. The lesions are:

    a. Comedones

        1) Open comedones - blackheads.
        2) Closed comedones - whiteheads.

    b. Papules.
    c. Pustules.
    d. Cysts or nodules.
    e. Scarring from previous lesions is common.

3. The lesions are usually tender.

C. LABORATORY TESTS

1. None.

D. LABORATORY FINDINGS

1. None.

E. COMPLICATIONS

1. Scarring.
2. Keloid formation (in those prone).
3. Psychic trauma.

F. TREATMENT

1. Instruct the patient NOT to squeeze the lesions. This should be carried out by an experienced physician.
2. Encourage a well balanced diet. Avoidance of chocolate etc. are no longer recommended.
3. Sun exposure (in moderation) to the affected areas is beneficial.
4. Regular shampooing of the scalp.
5. Instruct the patient to thoroughly scrub the affected areas with an abrasive soap bid and then apply Benzoyl Peroxide.
6. For severe cases, administer Tetracycline as follows: 250-500mg PO qid x 8-10 weeks, then 250-500mg PO bid x 4 weeks, then 250-500mg PO q day. Reduce to the lowest dose (250mg q day or 250mg every other day) depending on the patients response.

G. DISPOSITION

1. Refer all severe cases to a Medical Officer for a dermatologic evaluation.

BASAL CELL CARCINOMA

A. GENERAL CONSIDERATIONS

Basal cell carcinoma accounts for approximately 65% of all skin cancers. They are slow growing and locally invasive but rarely undergo metastasis. The vast majority of these lesions occur on the face.

The major factor in the development of basal cell carcinoma is prolonged sun exposure. Those with light skin are particularly at risk. They also develop at the site of excessive X-rays and thermal burns. Protection from prolonged sun exposure is therefore the mainstay of prevention.

B. ESSENTIALS OF DIAGNOSIS

1. They are usually asymptomatic.
2. They usually begin as a papule and enlarge peripherally.
3. Central depression develops and may crust.
4. The central area may become necrotic and develop into the classic "rodent ulcer".
5. The edges are translucent and raised.
6. Fine telangiectatic vessels may be found on the boarders.
7. The lesions are usually hard.
8. The lesions are usually single.
9. They are generally located on the exposed areas of the head. Most are on the face.

C. LABORATORY TESTS

1. None.

D. LABORATORY FINDINGS

1. None.

E. COMPLICATIONS

1. Secondary bacterial infection.
2. Local tissue destruction.
3. Rarely metastasis.

F. TREATMENT

1. These will need to be treated by a Medical Officer.
2. Treat any secondary infection.

G. DISPOSITION

1. The patient should be seen by a Medical Officer at the next available port.

DERMATOPHYTOSIS
THE TINEA DISEASES

A. GENERAL CONSIDERATIONS

Dermatophytosis is also known as ringworm or tinea. They are chronic fungal infections of the skin, hair, and nails. The serpiginous boarder of inflammation is the reason for the name "Ringworm".

Dermatophytosis

Type	Location
Tinea Capitis	Scalp
Tinea Corporis	Body
Tinea Cruris	Groin
Tinea Manus	Hands
Tinea Pedis	Feet
Tinea Unguium	Nails

B. ESSENTIALS OF DIAGNOSIS

1. Tinea Capitis

   a. Areas of alopecia and scaling.
   b. Usually no symptoms, may be slightly pruritic.

2. Tinea Corporis

   a. Usually intensely pruritic.
   b. Annular lesions with serpiginous boarders.
   c. Scales, pustules, or vesicles may appear.
   d. Central clearing may be seen.

3. Tinea Cruris (Jock Itch)

   a. Intertriginous areas and adjacent upper thigh and buttock. Scrotum rarely involved.
   b. Intense pruritus.
   c. Scaling, plaques, serpiginous boarders, may see central clearing, pustules occasionally seen.

4. Tinea Manus

   a. Usually found on the dominant hand in a patient with tinea pedis or Tinea unguium. Often unilateral.
   b. Resembles Tinea corporis.

5. Tinea Pedis (Athletes Foot)

   a. Fissuring and maceration in the toe webs (initially the 3^{rd} and 4^{th} interdigital spaces), scaling of the plantar surfaces, or vesicles around the toe webs and soles.
   b. Pruritic.

6. Tinea Unguium (Onychomycosis)

   a. Chalky, crumbling, white, thickened nails.

C. LABORATORY TESTS

1. RPR.
2. KOH preps.
3. Woods lamp.

D. LABORATORY FINDINGS

1. To R/O syphilis (the great imitator)
2. Hyphae.
3. Woods lamp

    a. It may fluoresce green in tinea capitis.
    b. R/O erythrasma - orange-red color.
    c. R/O pityriasis versicolor - golden yellow color.

E. COMPLICATIONS

1. Secondary infection (including cellulitis)
2. Alopecia.

F. TREATMENT

1. Skin lesions - Clotrimazole or Miconazole topically bid for 2 weeks. Tolnaftate may be substituted. With incomplete resolution, use Griseofulvin 250mg PO bid x 4 weeks.
2. Hair and nail lesions - Griseofulvin 500mg PO bid x 4 weeks.
3. Areas should be kept clean and dry.
4. With tinea pedis - Alternate shoes. Leave them dry 24 hours with antifungal powder. The patient should keep their feet dry by changing socks frequently. The patient should clean in interdigital webs thoroughly each day.
5. A patient on Griseofulvin should avoid strong natural or artificial light.

G. DISPOSITION

1. If the patient fails to respond to treatment, contact a Medical Officer for further advice.

CARBUNCLES AND FURUNCLES

A. GENERAL CONSIDERATIONS

Carbuncles and furuncles result from infections by tissue invasive bacteria, generally STAPH AUREUS. A furuncle (boil) is a deep seated infection that involves the entire hair follicle and adjacent subcutaneous tissues. It usually destroys the hair and follicle. This is different from folliculitis in that with folliculitis no deep tissues are involved. A carbuncle involves more than one pilosebaceous unit, with subcutaneous extensions and multiple drainage points. In general, these appear on the back or posterior neck where the skin is tough (causing lateral extension).

B. ESSENTIALS OF DIAGNOSIS

1. Extremely painful inflammatory swelling of a hair follicle forming an abscess in the subcutaneous tissues.
2. Occasionally a primary presentation of a systemic disorder, such as Diabetes, immunosuppression, or another debilitating condition and may be resistant to treatment.

C. LABORATORY TESTS

1. WBC
2. Gram stain of pus.
3. C&S if facilities are available.
4. Urinalysis for glucose and ketones.

D. LABORATORY FINDINGS

1. WBC may show slight leukocytosis.
2. Gram stain may show gram positive organisms.
3. C&S will usually identify organism as Staphylococcus Aureus.

E. COMPLICATIONS

1. Serious and sometimes fatal cerebral thrombophlebitis may occur as a result of manipulating a furuncle on the upper lip or near the nasolabial folds.
2. Perinephric abscess.
3. Osteomyelitis
4. Hematogenous staphylococcal infections.
5. May extend deep into tissues.

F. TREATMENT

1. Local measures:

   a. Immobilize affected part.
   b. Avoid over manipulation.
   c. Use moist heat, 15 minutes every 4-6 hours, to help lesions localize.
   d. After lesions are fluctuant, incise and drain.
   e. Then cleanse with Betadine and pack with iodoform gauze. Repeat daily until no further signs of infection are evident and the wound is granulating in well.

2. Systemic antibiotics not always required. If you elect to use:

   a. Erythromycin 250mg PO qid x 10 days.
   b. Dicloxicillin may also be used.

G. DISPOSITION

1. If lesions do not regress in 48 hours, contact a Medical Officer for advice.

CELLULITIS

A. GENERAL CONSIDERATIONS

Cellulitis is an acute infection of the skin most commonly caused by streptococcus pyogenes and occasionally by staphylococcus aureus (in association with a wound or abscess). Cellulitis most commonly involves the lower extremities. A defect in the skin often precedes the cellulitis. Examples are: tenia pedis, skin trauma, dermatitis, etc..

B. ESSENTIALS OF DIAGNOSIS

1. Erythema and local tenderness.
2. The area is hot.
3. Regional lymphadenopathy is common.
4. The red, warm skin may have an indurated surface resembling an orange skin (peau d' orange).

C. LABORATORY TESTS

1. CBC.
2. Gram stain any drainage.
3. C&S if facilities are present.

D. LABORATORY FINDINGS

1. May show elevated white count.
2. May indicate the organism.
3. If facilities are available.

E. COMPLICATIONS

1. Local abscess.
2. Severe necrotizing subcutaneous infection.
3. Bacteremia.
4. Chronic lymphatic obstruction.

F. TREATMENT

1. Immobilize and elevate the area. Apply warm packs.
2. Give one of the following depending on the severity:

    a. Penicillin V 250-500mg PO qid x 10 days.
    b. Procaine Penicillin 1.2 million units IM daily x 1-3 days with the PO form above and continue PO dose of Penicillin V for at least 10 day.
    c. Erythromycin 250-500mg PO qid x 10 days for the patient who is allergic to Penicillin.

3. Give Dicloxacillin 500mg PO qid x 10 days for the patient in whom you suspect the cause is Staph. Aureus.

G. DISPOSITION

1. If the area does not reduce in size within 48 hours or if any complications develop, contact a Medical Officer for a possible MEDEVAC.

IMPETIGO

A. GENERAL CONSIDERATIONS

Impetigo is a highly contagious acute purulent infection which begins as papules and quickly develops eroded vesicles with an oozing, sticky fluid. It is exceptionally pruritic at this stage. Crusts begin to form from the fluid. The lesions begin to spread peripherally, as well as spreading by satellite lesions. Regional adenitis is common but systemic symptoms are rare.

It is a superficial skin infection usually caused by group A Streptococci. It is also caused by Staphylococcus Aureus, which typically causes the bullous form.

B. ESSENTIALS OF DIAGNOSIS

1. Pruritus.
2. Lesions - the face, legs, and arms are common sites.
    a. Papules - early on, usually not seen.
    b. Vesicles - thin walled, erosions.
    c. Crusts - "honey colored gummy crust".
3. Regional adenitis is common.
4. Satellite lesions.
5. Afebrile.
6. Bullous form - thin walled bullae without surrounding erythema. The fluid is clear yellow to turbid.

C. LABORATORY TESTS

1. Gram stain.

D. LABORATORY FINDINGS

1. Shows Staph or Strep.

E. COMPLICATIONS

1. Scaring.
2. Spreading to other body areas or other personnel.

F. TREATMENT

1. Non-bullous: Penicillin V or Erythromycin as alternative.
2. Bullous: Dicloxicillin or Erythromycin as alternative.

G. DISPOSITION

1. If they do not respond to treatment or develop systemic symptoms, contact a Medical Officer.

PILONIDAL CYST

A. GENERAL CONSIDERATIONS

A pilonidal cyst is located in the sacrococcygeal region, usually at the upper portion of the intergluteal cleft. A congenital cyst is caused by the trapping of hair follicles in the deep tissues. An acquired cyst is usually the result of irritations and secondary infection. Pilonidal cysts are more common in men, especially in those with abundant body hair. You must differentiate pilonidal cysts from rectal abscesses and fistulas.

B. ESSENTIALS OF DIAGNOSIS

1. Pain, erythema, edema, and tenderness localized to the upper portion of the intergluteal cleft.
2. Fever may be present.
3. Hairs may often project form the opening.

C. LABORATORY TESTS

1. WBC
2. Gram stain of discharge form cyst.
3. C&S of discharge from cyst if facilities are available.

D. LABORATORY FINDINGS

1. WBC may be increased.
2. Gram stain may suggest causative agent.
3. C&S will identify causative organism of a secondary infection and the antibiotic of choice.

E. COMPLICATIONS

1. Formation of chronic sinuses.

F. TREATMENT

1. Incise, drain, and pack cyst with Iodoform gauze.
2. Provide daily sitz baths.
3. Clean wound daily with Hydrogen Peroxide and repack with Iodoform gauze until the cyst closes by secondary intention.
4. Treat any secondary infection with antibiotics.

D. DISPOSITION

1. Contact a Medical Officer for advice or possible MEDEVAC.
2. Surgical excision of the cyst is usually necessary.

SCABIES

A. GENERAL CONSIDERATIONS

Scabies is an intensely pruritic dermatitis caused by infestation with mites. Symptoms may not be produced for up to a month with the initial infestation. Subsequent infestations produce symptoms within a few days.

Infestations are common among family members and close contacts. This includes shipmates.

B. ESSENTIALS OF DIAGNOSIS

1. Intense pruritus. Begins intermittently and then becomes persistent. It is typically at night.
2. The primary lesion is the mites burrow.

    a. These may be difficult to see.
    b. These are gray-brown or skin colored ridges that are a few millimeters in length.

3. Secondary lesions (due to the intense pruritus) are more apparent. These are discrete excoriations.
4. Papules and vesicles are also present.
5. The face and neck are typically spared.
6. Lesion location:

    a. Webs of the fingers and palms of hands.
    b. Flexures of the wrists.
    c. Axillary folds.
    d. Penis, scrotum.
    e. Buttocks.
    f. Nipples.
    g. Abdomen, chest.

7. Secondary bacterial infection is not that uncommon.

C. LABORATORY TESTS

1. The mite may be seen as a dark spot at the end of the burrow. Open the burrow slowly with a needle. The mite generally sticks to the needle. Place on a slide.

D. LABORATORY FINDINGS

1. Confirm the above with a microscopic examination.

E. COMPLICATIONS

1. Secondary bacterial infections.
2. Spread to close contacts.

F. TREATMENT

1. Shower.
2. Apply Gamma Benzene Hexachloride Cream (Kwell) from the neck down.
3. Repeat in 24 hours and again in one week.
4. Launder all bedding and clothing.
5. Treat all close direct contacts and those sharing bedding, towels, or clothing.
6. Treat any secondary bacterial infections as indicated.
7. Benadryl may be indicated if the pruritus is intense. It is particularly useful if the excoriation is massive or the is a secondary bacterial infection.

G. DISPOSITION

1. Contact a Medical Officer for further advice if this treatment fails.

URTICARIA

A. GENERAL CONSIDERATIONS

Urticaria can occur separately or in combination with angioedema. Urticaria refers to well circumscribed wheals with red raised boarders. The causes are varied and include: drugs, viral infections, foods, dyes, soaps, pressure, heat, light, cold, insect bites, and idiopathic causes. For our purposes, we can think of it as a vascular reaction caused by histamine release in response to allergens.

B. ESSENTIALS OF DIAGNOSIS

1. Eruptions of evanescent wheals or hives that are intensely pruritic.
2. Most incidents are self-limited, subsiding in 1-2 weeks.
3. The wheals may be from several millimeters to several inches in diameter.

C. LABORATORY TESTS

1. None.

D. LABORATORY FINDINGS

1. None.

E. COMPLICATIONS

1. Urticaria may be the first sign of anaphylaxis, and death from anaphylactic shock may ensue.

F. TREATMENT

1. Eliminate cause if possible.
2. Give Diphenhydramine (Benadryl) 50mg IM, then Benadryl 25-50 mg PO q 4 - 8 hours as needed. CAUTION: this can cause hypotension and certainly usually causes significant drowsiness.
3. Topical agents may help with symptoms.
4. If symptoms/signs of anaphylaxis develop, treat as per the section on Anaphylactic Shock.
5. For significant reactions (without anaphylaxis), contact a Medical Office for the possible use of Prednisone.

G. DISPOSITION

1. If the patient does not improve with Benadryl in 48 hours, contact a Medical Officer for further advice.
2. Any patient who develops signs of anaphylaxis must be MEDEVACed even if they respond well to therapy (due to potential relapse).